REMARKS

This application contains claims 1-57. Claims 1, 20 and 39 are hereby amended. No new matter has been added. Reconsideration is respectfully requested.

Claims 1, 2, 6, 9-21, 25, 28-40 and 47-57 were rejected under 35 U.S.C. 102(b) over Ivanoff et al. (U.S. Patent 5,517,622). Claims 1, 17, 20, 36, 39 and 55 are independent claims. Applicant has amended claims 1, 20 and 39 in order to clarify the distinction of the present invention over the cited art. Applicant respectfully traverses the rejection of claims 17, 36 and 55.

Claim 1 is drawn to a method for managing data storage in a cluster of computing nodes. The nodes have shared access to data storage using a parallel file system. (A parallel file system is defined explicitly in the specification as "a PFS [physical file system] running on a cluster of nodes, which enables all nodes in the cluster to access the same file data concurrently" – page 17, lines 12-14.) One of the nodes in the cluster is chosen to serve as the session manager node, while a second node is selected to serve as a session node for a data management (DM) application. The claim has been amended to clarify the nature of the DM application, i.e., that it runs on the volumes of

data storage using the parallel file system. In other words,
this is a specific sort of storage-oriented application, of a
type that is described in detail in the specification (see,
for example, page 1, line 23 - page 2, line 3).

A session of the DM application is created by
sending a message from the session node to the session manager
node. This message causes the session manager node to inform
the other nodes in the cluster about the session. As a
result, the session node receives events from the nodes in the
cluster for processing by the DM application. The claim has
also been amended to clarify that these events are generated
specifically when the nodes access the volumes of data storage
using the parallel file system. The amendments to claim 1 are
supported clearly in the specification, for example on page 6,
line 31 - page 7, line 18.

Ivanoff describes a method and apparatus for pacing
communications in a distributed, heterogeneous network. The
method uses communication managers, which reside in local
processors and are responsible for interfacing local end-users
with the remainder of the network (abstract). In rejecting
the claims in the present patent application, the Examiner
made reference specifically to Fig. 6, which illustrates the
functions of the communication manager in terms of a network
protocol stack (col. 11, lines 54-59). The CM interacts with

the session layer of the protocol stack (col. 37, lines 22-36,
and col. 38, line 60 - col. 39, line 42). One aspect of
management services performed by the CM includes event
management (col. 66, line 18 - col. 67, line 57).

Despite the chance similarity between certain terms
used by Ivanoff and those in claim 1, the context in which
Ivanoff uses these terms has nothing to do with data storage,
parallel file systems or with data management applications.
As noted above, Ivanoff is concerned with facilitating
communication over a network. He makes only a single, cursory
mention of storage (col. 7, line 23) and of data management
(col. 11, lines 44-45). He makes no mention at all of file
systems, parallel or otherwise. The events described by
Ivanoff are not related in any way to data storage access.
All these limitations are now recited explicitly in claim 1.

Thus, Ivanoff cannot be taken to anticipate the
steps of the method of claim 1 as amended, which are
specifically drawn to the operation of a data management
application running on volumes of data storage using a
parallel file system. (Furthermore, even absent the present
amendment, the Examiner has not made clear which element of
Ivanoff's Fig. 6 performs the function of the "session manager
node," and which performs the function of the "session node,"
as recited by claim 1.) Applicant therefore submits that

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claim 1 is patentable over Ivanoff. In view of the patentability of claim 1, claims 2, 6 and 9-16, which depend from claim 1, are believed to be patentable, as well.

Claims 20 and 39 respectively recite computing apparatus and a computer software product, which operate on principles similar to the method of claim 1, and have been amended in like manner. Therefore, for the reasons stated above, amended claims 20 and 39 are likewise believed to be patentable over Ivanoff. In view of the patentability of these independent claims, dependent claims 21, 25, 28-35, 40 and 47-54 are believed to be patentable, as well.

Claim 17 recites a method for managing data storage that includes initiating sessions of a parallel data management application on a plurality of nodes in a cluster. A data management event is generated when a request is submitted to a parallel file system on one (or more) of the nodes to perform a file operation on a file in a volume of data storage. The event is handled by an instance of the data management application running on the node.

This claim, as filed, explicitly recites the storage volumes and parallel file system that were added to the steps of claim 1 in the present amendment. As noted above, Ivanoff does not relate in any substantive manner to these elements or

to data management applications involving these elements, and

therefore cannot be taken to anticipate claim 17. Thus,

Applicant respectfully submits that claim 17 is patentable

over Ivanoff. In view of the patentability of claim 17,

claims 18 and 19, which depend from claim 17, are believed to

be patentable, as well.

Claims 36 and 55 respectively recite computing

apparatus and a computer software product, which operate on

principles similar to the method of claim 17. Therefore, for

the reasons stated above regarding claim 17, claims 36 and 55,

as filed, are likewise believed to be patentable over Ivanoff.

In view of the patentability of these independent claims,

dependent claims 37, 38, 56 and 57 are believed to be

patentable, as well.

Claims 3-5, 7, 8, 22-24, 26, 27, 41-43, 45 and 46

were rejected under 35 U.S.C. 103(a) over Ivanoff in view of

Stevenson et al. (U.S. Patent 5,023,873) or Dugan et al. (U.S.

Patent 6,363,411). As noted above, in view of the

patentability of independent claims 1, 20 and 39, from which

these claims depend, Applicant believes these dependent claims

to be patentable, as well, over the cited art.

Applicants note that a number of Information

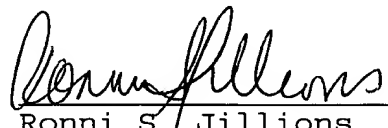Disclosure Statements were filed both before and after

receiving the Office Action. In particular, Information Disclosure Statements were filed on March 18, 2002, October 27, 2003, February 23, 2004 and August 5, 2004. The Examiner is requested to consider and cite the documents presented in those Information Disclosure Statements and to confirm same by returning the initialed PTO-1449 forms.

Applicant believes the amendments and remarks presented hereinabove to be fully responsive to all of the grounds of rejection raised by the Examiner. In view of these amendments and remarks, Applicant respectfully submits that all of the claims in the present application are in order for allowance. Notice to this effect is hereby requested.

If the Examiner has any questions, he is invited to contact the undersigned at (202) 628-5197.

Respectfully submitted,

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